

Notice of Allowability

Application No.

09/578,027

Examiner

Quang N. Nguyen

Applicant(s)

COHEN ET AL.

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Appeal Brief filed on 01/20/2006.
2. ☒ The allowed claim(s) is/are 1-25 and 28-30.
3. ☒ The drawings filed on 24 May 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of _____ Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Examiner's Amendment

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment maybe filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this Examiner's Amendment was given in a telephone interview with the Applicants' Representative, Mr. Kirk D. Wong (Reg. No. 43,284) on February 22nd, 2006.

3. Pursuant to MPEP 606.01, the title has been changed to read:

-- A SYSTEM AND METHOD OF OPTIMIZING RETRIEVAL OF NETWORK RESOURCES BY IDENTIFYING AND SUBSTITUTING EMBEDDED SYMBOLIC HOST NAME REFERENCES WITH NETWORK ADDRESSES IN ACCORDANCE WITH SUBSTITUTION POLICIES --

4. Please change Claim 1 to:

A method of optimizing retrieval of electronic documents, comprising the computer-implemented steps of:

receiving and routing network packets;

extracting a first electronic document from the network packets;

identifying one or more symbolic references to other electronic documents within the first electronic document;

determining a network address of each of the other electronic documents corresponding to each of the symbolic references;

creating and storing a modified copy of the first electronic document in which the network address is substituted for each corresponding symbolic reference in accordance with one or more substitution policies;

delivering the modified copy of the **first** electronic document in response to all subsequent client requests for the first electronic document, **thereby greatly reducing the required number of network address lookup operations;**

wherein the step of determining a network address of each of the other electronic documents corresponding to each of the symbolic references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical symbolic references.

5. Please change Claim 8 to:

A method as recited in Claim 1, wherein the **first** electronic document comprises an HTML document, and wherein the symbolic references comprise only embedded URLs in the HTML document.

6. Please change Claim 9 to:

A method as recited in Claim 1, wherein the **first** electronic document comprises an HTML document, and wherein the symbolic references comprise only selected URLs in the HTML document as determined according to a substitution policy.

7. Please change Claim 10 to:

A method as recited in Claim 1, wherein the **first** electronic document comprises an HTML document, and wherein the symbolic references comprise all URLs in the HTML document.

8. Please change Claim 11 to:

A method of optimizing access to a network resource, comprising the computer-implemented steps of:

receiving a network resource that contains one or more embedded symbolic host name references;

determining a network address corresponding to each of the embedded symbolic host name references;

creating and storing on a cache server a modified copy of the network resource in which a network address is substituted for each corresponding embedded symbolic host name reference in accordance with one or more substitution policies;

using the modified copy of the network resource in responding to all subsequent client requests for the network resource, thereby greatly reducing the required number of network address lookup operations;

wherein the step of determining a network address corresponding to each of the embedded symbolic host name references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical embedded symbolic host name references.

9. Please change Claim 12 to:

A router that includes a stored program comprising one or more sequences of instructions for optimizing retrieval of network resources, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:

receiving and routing network packets;

extracting data packets of a network resource that contains one or more embedded symbolic host name references;

determining a network address corresponding to each of the embedded symbolic host name references;

creating and storing on the router a modified copy of the network resource in which a network address is substituted for each corresponding embedded symbolic host name reference in accordance with one or more substitution policies;

using the modified copy of the network resource in delivering the network resource to a client, thereby greatly reducing the required number of network address lookup operations;

wherein the step of determining a network address corresponding to each of the embedded symbolic host name references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical embedded symbolic host name references.

10. Please change Claim 13 to:

A cache server that includes a computer-readable medium carrying one or more sequences of instructions for optimizing retrieval of network resources, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:

receiving a network resource that contains one or more embedded symbolic host name references;

determining a network address corresponding to each of the embedded symbolic host name references;

creating and storing on the cache server a modified copy of the network resource in which a network address is substituted for each corresponding embedded symbolic host name reference in accordance with one or more substitution policies;

using the modified copy of the network resource in responding to all subsequent client requests for the network resource, thereby greatly reducing the required number of network address lookup operations;

wherein the step of determining a network address corresponding to each of the embedded symbolic host name references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical embedded symbolic host name references.

11. Please change Claim 14 to:

A proxy server that includes a computer-readable medium carrying one or more sequences of instructions for optimizing retrieval of network resources, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:

receiving a network resource that contains one or more embedded symbolic host name references;

determining a network address corresponding to each of the embedded symbolic host name references;

creating and storing on the proxy server a modified copy of the network resource in which a network address is substituted for each corresponding embedded symbolic host name reference in accordance with one or more substitution policies;

using the modified copy of the network resource in responding to all subsequent client requests for the network resource, thereby greatly reducing the required number of network address lookup operations;

wherein the step of determining a network address corresponding to each of the embedded symbolic host name references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical embedded symbolic host name references.

12. Please change Claim 15 to:

An apparatus for optimizing retrieval of electronic documents, comprising:

means for receiving and routing network packets;

means for extracting a first electronic document from the network packets;

means for identifying one or more symbolic references to other electronic documents within the first electronic document;

means for determining a network address of each of the other electronic documents corresponding to each of the symbolic references;

means for creating and storing on a cache server a modified copy of the first electronic document in which the network addresses are substituted for all corresponding symbolic references in accordance with one or more substitution policies;

means for delivering the modified copy of the **first** electronic document in response to all subsequent client requests for the first electronic document, **thereby greatly reducing the required number of network address lookup operations;**

wherein the step of determining a network address of each of the other electronic documents corresponding to each of the symbolic references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical symbolic references.

13. Please change Claim 16 to:

A computer-readable medium carrying one or more sequences of instructions for optimizing retrieval of network resources, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:

receiving and routing network packets;

extracting a ~~network resource that contains one or more embedded symbolic host name references~~ **first electronic document** from the network packets;

identifying one or more symbolic references to other electronic documents within the first electronic document;

determining a network address **of each of the other electronic documents** corresponding to each of the ~~embedded symbolic host name~~ references;

creating and storing a modified copy of the ~~network resource~~ **first electronic document** in which a network address is substituted for each corresponding ~~embedded symbolic host name~~ reference in accordance with one or more substitution policies;

using the modified copy of the ~~network resource~~ **first electronic document** in responding to all subsequent client requests for the ~~network resource~~ **first electronic document**, thereby greatly reducing the required number of network address lookup operations;

wherein the step of determining a network address of each of the other electronic documents corresponding to each of the symbolic references comprises load balancing by the steps of successively selecting a different one

of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical symbolic references.

14. Please change Claim 22 to:

A computer-readable medium as recited in Claim 46 **21**, wherein the pre-determined network resource is a pre-determined electronic document that comprises a message specifying that access to **the** prohibited network resource is prohibited.

15. Please change Claim 23 to:

A computer-readable medium as recited in Claim 16, wherein the **first** electronic document comprises an HTML document, and wherein the symbolic references comprise only embedded URLs in the HTML document.

16. Please change Claim 24 to:

A computer-readable medium as recited in Claim 16, wherein the **first** electronic document comprises an HTML document, and wherein the symbolic references comprise only selected URLs in the HTML document as determined according to a substitution policy.

17. Please change Claim 25 to:

A computer-readable medium as recited in Claim 16, wherein the **first** electronic document comprises an HTML document, and wherein the symbolic references comprise all URLs in the HTML document.

18. Please change Claim 29 to:

A method of optimizing retrieval of electronic documents, comprising the computer-implemented steps of:

receiving and routing network packets;

extracting a first electronic document from the network packets;

identifying one or more symbolic host names contained only in one or more embedded Universal Resource Locators (URLs) within the first electronic document;

determining a network address of each host corresponding to each of the symbolic host names;

creating and storing on a cache server a modified copy of the first electronic document in which the network address is substituted for each of the symbolic host names in accordance with one or more substitution policies;

delivering the modified copy of the electronic document in response to all subsequent client requests for the first electronic document, thereby greatly reducing the required number of network address lookup operations;

wherein the step of determining a network address of each host corresponding to each of the symbolic host names comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical symbolic host names.

19. Please cancel Claims 26 and 27.

20. Claims 1-25 and 28-30 are allowed.

21. The following is an examiner's statement of reasons for allowance:

In interpreting the Claims, in light of the specification and the Applicants' Appeal Brief filed on 01/20/2006, the Examiner finds the Claimed invention to be patentably distinct from the prior art of record.

Beranek et al. (US 6,226,642), teach a system and method for content modifying of internet web pages by a proxy, wherein as the web document is received from a server, the HTML is parsed to identify the format of the document and the information therein. A filter mechanism is then used to re-format the Web document according to some given protocol or filter property by changing URLs or displaying other URLs, embedding files, adding, removing or reconfiguring frames, or controlling text and table formats (**Beranek, Abstract and C3: L19-30**).

Kavner (US 6,366,947) teaches a system and method for accelerating network interaction using intelligent caching and intelligent fetching wherein a number of hypertext links such as buttons, certain words or images (*i.e., symbolic references*), associated with additional information (*i.e., associated with other electronic documents*) were identified (**Kavner, C12:L44 – C13:L25 and C16: L32-58**).

However, the prior art of record fails to teach or suggest individually or in combination that a system and method of optimizing retrieval of electronic documents, comprising the computer-implemented steps of: receiving and routing network packets; extracting a first electronic document from the network packets; identifying one or more symbolic references to other electronic documents within the first electronic document; determining a network address of each of the other electronic documents corresponding to each of the symbolic references; creating and storing a modified copy of the first electronic document in which the network address is substituted for each corresponding symbolic reference in accordance with one or more substitution policies; delivering the modified copy of the first electronic document in response to all subsequent client requests for the first electronic document, thereby greatly reducing the required number of network address lookup operations; wherein the step of determining a network address of each of the other electronic documents corresponding to each of the symbolic references comprises load balancing by the steps of successively selecting a different one of a plurality of pre-determined network addresses of a plurality of servers for substitution for successive identical symbolic references as set forth in independent Claims 1, 11-16 and 29. Claims 1-25 and 28-30 are allowed because of the combination of other limitations and the limitation listed above.

The examiner finds the Applicant's arguments on pages 6-9 of the Arguments filed on 01/20/2006 to be persuasive. The applicant argued in substance that the combination of prior art of records fail to disclose the features of the invention including

determining a network address of each of the other electronic documents corresponding to each of the symbolic references; and creating and storing a modified copy of the first electronic document in which the network address is substituted for each corresponding symbolic reference in accordance with one or more substitution policies, as claimed in the invention to greatly reduce the required number of network address lookup operations for optimizing retrieval of network resources (**see Arguments, pages 6-9 and see Specification, Summary of the Invention**).

22. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Examiner's Amendment."

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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